



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,659	10/25/2001	Pamela A. Kramer	ACS-54306(22571)	6167

24201 7590 11/02/2006

FULWIDER PATTON
6060 CENTER DRIVE
10TH FLOOR
LOS ANGELES, CA 90045

EXAMINER

HO, UYEN T

ART UNIT PAPER NUMBER

3731

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

NT

Office Action Summary

Application No.

10/032,659

Applicant(s)

KRAMER ET AL.

Examiner

(Jackie) Tan-Uyen T. Ho

Art Unit

3731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-10,14-16,22-24,26-29 and 41-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-10, 14-16, 22-24, 26-29, 41-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 8/9/06 have been fully considered but they are not persuasive. Applicant argues that neither cited references teach or suggest a medical device being made from a metal alloy having an average grain size in the range of one to ten microns. Examiner disagrees. Alt discloses the implant being made from a metal alloy but fail to disclose the grain size as claimed. Zhu et al. teach that improving mechanical properties of a metal for making the medical implant by making it a fine-grained material. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the substrate of Alt's device which is an alloy being an ultrafine-grained in order to enhance the mechanical properties of the medical device. The combination of Alt and Zhu as addressed by examiner in the office action mailed on 5/10/06 does not result Alt's medical device being made from pure ultrafine-grain titanium but being made from an ultrafine-grain metal alloy. Alt teaches the medical device being made from alloy and only fails to disclose the grain size of the alloy. From the teach of Zhu, it is well recognized that a finer grain size generally provides a higher yield strength and Zhu et al. teach ultrafine-grained is an average grain sized in the range of one to ten microns. Therefore, one ordinary skill in the art would select or made the alloy as disclose by Alt being an ultrafine grain alloy for enhance the mechanical properties of the medical device.

All the metal alloys as claimed are well known in the art for making a medical device. And it is also recognized in the art that a finer grain size generally provides

Art Unit: 3731

higher yield strength. It also is recognized that ultrafine grain alloy provide high mechanical properties and a degree of superplasticity.

Robert (4,021,271) discloses an ultrafine grain alloy product and teaches that an average grain size less than 15, usually 11 microns or less provide high mechanical properties and a degree of superplasticity.

Mahoney et al. (4,919,323) disclose an ultrafine grain alloy having an average grain size in the range as claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-10, 14-16, 22-24, 26-29, 41-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alt (5,855,600) in view of Zhu et al. (6,399,215). Alt discloses all the limitation of the claims except for the average grain size in the range as claimed and some of the claimed alloys. Zhu et al. discloses a substrate of medical implant having a grain size as claimed and method to produce an ultra fine-grained metal in order to improve mechanical properties for medical implant. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the substrate of Alt having a grain size as claimed in order to improve mechanical properties for the stent.

Regarding to the alloys as claimed that are not mention in Alt or Zhu et al. references, since applicant has not disclose that the specific claimed alloys solve any state problem or for any particular purpose an it appears the sever equally well with other alloys as disclosed in the Alt and Zhu et al. references. Further more the alloys as claimed are well known in the art or available in the art for making implant. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the alloys of Alt in view of Zhu with the alloys as claimed. Doing so would amount to mere substitution of one known material for another within the art the serve equally well.

Claims 1, 3-10, 14-16, 22-24, 26-29, 41-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alt (5,855,600). Alt discloses all the limitation of the claims except for the average grain size in the range as claimed and some of the claimed alloys. It is well known in the art to have alloy having an average grain size in the range as claimed in order to provide high mechanical properties and a degree of superplasticity. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the substrate of Alt having a grain size as claimed in order to improve mechanical properties for the stent.

Regarding to the alloys as claimed that are not mention in Alt reference, since applicant has not disclose that the specific claimed alloys solve any state problem or for any particular purpose an it appears the sever equally well with other alloys as disclosed in the Alt reference. Further more the alloys as claimed are well known in the art or available in the art for making implant. Therefore, it would have been obvious to

Art Unit: 3731

one having ordinary skill in the art at the time the invention was made to substitute the alloys of Alt with the alloys as claimed. Doing so would amount to mere substitution of one known material for another within the art the serve equally well.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Support for well known statements about the average grain size: Mahoney et al. (4,919,323) disclose metal alloys having an average grain size of less than about 9 microns (col. 6, claim 11). Roberts (4,021,271) discloses ultrafine grain alloy provide high mechanical properties and a degree of superplasticity.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to (Jackie) Tan-Uyen T. Ho whose telephone number is 571-272-4696. The examiner can normally be reached on MULTIFLEX Mon. to Sat..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ANHTUAN NGUYEN can be reached on 571-272-4963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3731

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



(Jackie) Tan-Uyen T. Ho
Primary Examiner
Art Unit 3731

October 20, 2006